

4-16-14  
1<sup>st</sup> Geo

- ① what is the volume of a sphere with a radius of 6 cm?

$$\begin{aligned}V &= \frac{4}{3}\pi r^3 \\ &= \frac{4}{3}\pi \cdot 6^3 \\ &= 288\pi \\ &\approx 904.8 \text{ cm}^3\end{aligned}$$

- ② what is the volume of cylinder with a radius of 6 cm and a height of 10 cm?

$$\begin{aligned}V &= \pi \cdot r^2 \cdot h \\ &= \pi \cdot 6^2 \cdot 10 \\ &= 360\pi \\ &\approx 1130.9 \text{ cm}^3\end{aligned}$$

- ③ what is the surface area of a sphere with a radius of 3 cm?

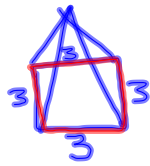
$$\begin{aligned}\text{S.A.} &= 4\pi r^2 \\ &= 4\pi \cdot 3^2 \\ &= 36\pi \\ &\approx 113.1 \text{ cm}^2\end{aligned}$$

- ④ what is the volume of a pyramid with a square base of 3 cm and a height of 9 cm?

$$V = \frac{1}{3} B h$$

$$V = \frac{1}{3} \cdot 9 \cdot 9$$

$$= 27 \text{ cm}^3$$



- ⑤ what is the surface area of a cylinder whose radius is 4 cm and height is 6 cm?

$$\begin{aligned} S.A. &= 2\pi r^2 + 2\pi r h \\ &= 2\pi \cdot 4^2 + 2\pi \cdot 4 \cdot 6 \\ &\approx 251.3 \text{ cm}^2 \end{aligned}$$

- ⑥ How much volume is left in a 10 by 4 by 3 box if a 5 by 3 by 2 box is placed inside it?

<u>Big Box</u>	—	Small Box
10 · 4 · 3	—	5 · 3 · 2
120	—	30
90 cm <sup>3</sup>		

- ⑦ A 3 cm radius sphere is put into a 4 cm radius sphere. How much volume is left in the 4 cm sphere?

$$\text{4 cm sphere} - \text{3 cm sphere}$$

$$\frac{4}{3}\pi r^3 - \frac{4}{3}\pi r^3$$

$$\frac{4}{3}\pi \cdot 4^3 - \frac{4}{3}\pi \cdot 3^3$$

$$\approx 155 \text{ cm}^3$$

- ⑧ How much larger is a 14 inch pizza than a 12 inch pizza?

$$\text{Large Pizza} - \text{Smaller pizza}$$

$$\pi r^2 - \pi r^2$$

$$\pi \cdot 7^2 - \pi \cdot 6^2$$

$$49\pi - 36\pi$$

$$13\pi$$

- ⑨ A cube that is 9 cm on each side is placed inside a cube that is 10 cm on each side. How much volume is left inside the 10 cm cube?

$$\text{Volume 10 cm cube} - \text{9 cm cube volume}$$

$$10 \cdot 10 \cdot 10 - 9 \cdot 9 \cdot 9$$

$$1000 - 729$$

$$271 \text{ cm}^3$$